Title: Money: <u>Count Pennies, Save a Dollar</u>
Identify, determine, and compare the value of given sets of mixed currency

Brief Overview:

      The students will use their knowledge of number relationships and computation to accumulate the most amount of money with the least amount of coins.

NCTM Content Standard/National Science Education Standard:

Number and Operation- Students will:
- Understand numbers, ways of representing numbers, relationships among numbers and number systems
- Understand meanings of operations and how they relate to one another;
- Compute fluently and make reasonable estimates.

Grade/Level:

      Grades 2-3

Duration/Length:

      Three days (50 minutes each day).

Student Outcomes:

      Students will:

- **Identify money amounts in different representations.**
- **Determine the value of a given set of mixed currency**
- **Compare the value of two sets of mixed currency**
- **Count money and make change**

Materials and Resources:

- Tray of money which includes coins and dollars

- Sandwich size zip lock bags
- Money board
- One die
- Determining the Value... (SR1)
- Money Wheel Spinner (SR1a)
- Timer
- Colored markers
- Pencils
- Paper clips
- Count Out! (SR2)
- Break It Down (SR3)
- Bingo (SR4)
- Dollars and Cents (SR5a)
- Dollars and Cents (SR5b)
- Money Illusion (SR6)
- Money Matters (SR7)
- Let's go Shopping (SR8)
- Money – Assessment (SR9)

Development/Procedures:

Lesson 1   **Value of Money**
Launch – Each student receives a SR1 sheet and colored marker to determine their knowledge of coin identification and value. The students will have one minute to complete the naming of each coin and its value. Answers should be recorded in columns one and two on the SR1 sheet. This part of the sheet will be done with a marker. The teacher will quickly scan the papers of each student to identify the level of currency knowledge and upon completion of this part, markers are collected. Students are paired off and each pair is given a Money Wheel Spinner SR1a and a paper clip. Students are given ten minutes to spin and tally the results of the number of times the spinner landed on each particular coin on the SR1 sheet. At the end of the time, each pair will total up the number of tallies for each coin and record the total value for that coin. If necessary, provide coins in a tray for students to use.
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Teacher Facilitation – Introduce the book, "If You Made a Million" by David M. Schwartz and start with the page that reads, *Congratulations! You've earned a penny…*through the page that ends with *twenty-five cents a piece*. Generate discussion on the question, "**Which U.S. currency would you prefer to have and why?**" Introduce the denominations of the U.S. dollar bills, by reading from the page starting with "*Delicious! You've baked a cake…"* and continue through to the page ending with "*…or you could take your mom to the movies"*. Generate the same kind of discussion on the dollar bills. Have students continue to work in pairs. Pass out the SR2 sheet and the prepared bags of $37.20, each bag consists of: four five-dollar bills, ten one-dollar bills, 4 half –dollars, 8 quarters, 20 dimes, 20 nickels, 20 pennies. Together, have the class identify and count the total amount of money in the bag and record it on the SR2 sheet.

The teacher will instruct the students to count money by highest denomination first. Each pair will now divide the bag of money equally and record their share on the SR2 sheet.

Student Application – Now the students will work individually to assess their understanding of the concept. The teacher will then pass out the SR3 sheet and allow ten minutes for students to complete the sheet. Students should be encouraged to use the money manipulatives to aide them in completing the worksheet. The teacher will make observations on student progress. The teacher should give individual attention to anyone who needs further assistance. Class can then discuss the various ways they computed the money amounts.

Embedded Assessment – Each student will receive a Bingo Card SR4 and one die. The teacher will read the Bingo Game directions and announce when each letter is to be rolled. There are a total of five rolls, one for each Bingo letter. At the end of the rolls, each student will have to individually add up the amounts rolled and record it on the Bingo card. The student with the most amount wins. The class can discuss the amount of coins for some of the results.

Reteaching/Extension – Give an overview of the concepts given in the lesson. As an extension, distribute the SR5 sheet and students will compute the amounts on their own. This sheet involves a *Brief Corrected Response* (BCR) for the student to complete. This will be used in assessing the student's understanding and mastery of the lesson.

Lesson 2   Comparing the value of two sets of mixed currency
Preassessment – Reintroduce money value from the previous lesson to the students. Provide an oral assessment by having the students answer several money questions concerning coin and dollar combinations. (For example - $6.16 could be one five-dollar bill, one one-dollar bill, one dime, one nickel, and one penny.)

Launch – Distribute SR6, Money Illusion sheet, and explain to the students that things aren't always what it may appear to be. The students will be given 3 minutes to start the computations and look over the sheet. The purpose is for the students **not** to complete the work sheet in class, but at home with a family member. The students will then record their choice on the worksheet. . Introduce the concept of comparing values. Show each bill ranging from the one-dollar to the one-hundred dollar bill.

Teacher Facilitation – For comparison, show a hundred-dollar bill with a stack of five twenty-dollar bills; a fifty-dollar bill with a stack of six ten-dollar bills; one twenty-dollar bill with a stack of 23 one-dollar bills; a stack of ten quarters with a stack of five dimes, a stack of ten nickels with a stack of fifty pennies. Ask students the following questions: Which one stack is worth more? What strategy did you use to come up with your answer? Explain to students that just because one stack of money is higher than another stack of money, it does not mean its value is greater.

Student Application – Teacher will add a twenty, a fifty, and a hundred-dollar bill to the prepared money bags from the previous lesson and distribute the SR7 sheet. Each money

bag should now have $188.60. Teacher will write on the chalkboard the following items with its prices:

1. Books-$11.95;
2. Basketball-$8.49;
3. Model car-$5.50;
4. Backpack-$21.70;
5. School jacket-$48.12
6. DVD player-$89.99.

On the SR7 –Part A, students will write what bill would be used to purchase each item. The time limit is one minute and students will work independently. Check answers and generate discussion with questions, i.e. Was the bill enough money to purchase the item? Could you use a combination of bills to purchase a particular item? Is it better to carry one large bill or several bills?

Embedded Assessment – Each student, without looking, will pick out two bills and three coins from the money bag and record the total amount in Part B. That amount is also recorded on #1 of Part C. The teacher will ask four other students their results and all students will record them on lines 2-5 of Part C. Using all five results of Part C, students will order the amounts from greatest to least. They will place the numbers 1-5 in the correct circles to show the order. The teacher can use the chalkboard to record one or two examples from the students to further explain the results.

Reteaching/Extension – Review briefly the results and have students do Exercise D. For homework, have students bring two items to play, "sell," for the next lesson.

Lesson 3   **Count Money and Make Change**
Launch – Pose the question: How many students have ever bought something from the store with their money? If yes, did you receive change? If yes, how did you know it was the correct amount of change? Do a brief overview of money and its denominations, i.e. a dollar value can be represented by ten dimes, twenty nickels, etc
                                    .
Teacher Facilitation – Demonstrate the method of counting up to the amount of the bill using various dollar totals, i.e. item cost is$7.23, from a $10.00, count 24, 25 in pennies, and 50, 75 and $8.00 in quarters, and $9.00, 10.00 in one-dollar bills.

Student Application –Distribute the money bags to each student. Have students label each item they brought to school with a price. Divide students into pairs by having them count off, 1, 2, 1, 2,. Group 1 will be the buyers and group 2 will be the sellers. Each student in Group 1 will go a student in Group 2 to begin a transaction. Time limit is 5 minutes. Then Group 2 will go to a student in Group 1 and do transactions. Time limit is 5 minutes. To extend the activity (optional), the teacher can explain what an auction is and have an auction with specific school items from the classroom, i.e. bonus stickers, pencils, erasers. Each student will count the remaining money in their money bags.

Embedded Assessment – Distribute, Let's Go Shopping, SR8 to all students to work independently. Observe the students as they are working. Offer assistance where assistance is needed.

Reteaching/Extension – To restate the lesson, read the book "Follow the Money", by Loreen Leedy. Emphasize certain concepts throughout the book..

Summative Assessment: Have students complete the Money – Assessment SR9. Together with teacher observations and BCR's, they will be used as a form of assessment.

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Determining the Value of Given Coins

Diagram	Name of Coin	Value of Coin	Tally Marks	Total # of Coins	Total Value of Coins

Name _____ Date _____

Money Wheel Spinner
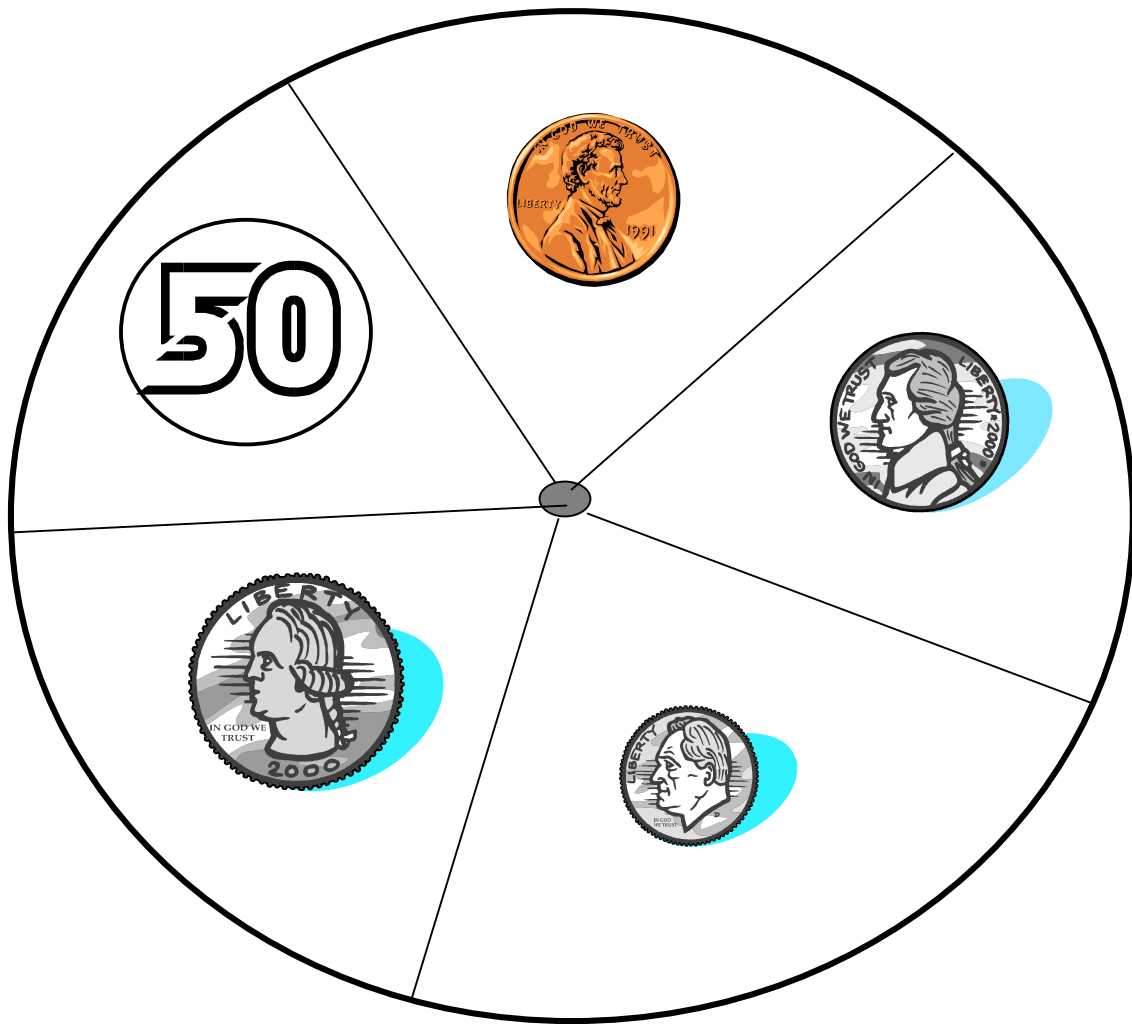
Count Out !

Amount
Given $\$$_____

Counting Out
the Amount

_____   _____

_____   _____

_____   _____

_____   _____

_____   _____

_____   _____

Your Share $\$$_____

Break It Down

Show each amount of money below in **2 different ways**.

Amount	$5.00	$1.00	$0.50	$0.25	$0.10	$0.05	$0.01
$ 1.37							
$ 0.54							
$ 8.45							
$14.95							

B I N G O

B = $ 1.00
I = $ 0.25
N = $ 0.10
G = $ 0.05
O = $ 0.01

The teacher announces when students roll for each letter. For example: If students roll a 6, they circle the amount under Letter B (#6 = 0) The continue to do this for each of the remaining letters. Once the 5th roll is completed at the bottom of the bingo card, record the total amount that each letter rolled. Add the totals together. The student with the highest dollar amount wins.

ROLL	B	I	N	G	O
(1)	$ 1.00	25	10	5	1
(2)	$ 2.00	25	10	5	1
(3)	$ 3.00	25	10	5	1
(4)	$ 4.00	25	10	5	1
(5)	$ 5.00	25	10	5	1
(6)	0	0	0	0	0
Total		+	+	+	+ =

$.

Dollars and Cents
Using the Least Amount of Coins

Value of Coins	$10 Bills	$5 Bills	$1 Bill	Half-Dollars	Quarters	Dimes	Nickels	Pennies	# of Coins & Bills
$1.15									
$3.49									
$7.76									
$9.09									
$14.99									

Dollars and Cents

Using the Least Amount of Coins

How did you decide what coins or bills to start with when you were representing the money amounts with the **least amount of coins and bills**?

For the amount of _____. I started counting with _____ because _____ _____.

Then I used _____ because _____ _____.

Then I used _____ because _____ _____.

Finally I ended with _____ because _____ _____.

This is a diagram to show what coins and bills I decided to use.

Money Illusion

One person was given $1 million dollars on September 1st. The other person was given 1 cent on September 1st, but was promised to have his money doubled each day in September. (For example: 1 cent, 2 cents, 4 cents, 8 cents, 16 cents… until September 30th.

Which person would you want to be and why?

September

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

MONEY MATTERS

Name: _____   Date: _____

A. Bills to Use

1._____

2._____

3._____

4._____

5._____

B. Your Total

$_____

Write the money amounts

Dollar Amount #1_____

Dollar Amount #2 _____

Coin #1 _____
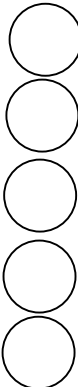
Coin #2 _____

Coin #3 _____

C. Chalkboard Exercise

1._____ (your amount)

2._____

3._____

4. _____

5._____

D. In your own words

Choose one of the above amounts from Part C other than your own and explain the
dollar and coin combinations that would equal that amount. In your opinion, is it better
to carry one large bill or several small bills? Why?
I think it is better to carry _____ because _____

Name_____Date_____ Student Resource 8

Shirt
$49.95

Computer software
$99.99

jacket
$76.29

Accessories
$23.79

Let's go shopping!

What can you buy with a: **What change is left?**

One hundred-dollar bill_____   _____

A fifty-dollar bill_____   _____

A twenty-dollar bill_____   _____

Work space

What method did you use to come up with your change
answer?

The method I used was_____

_____

_____

_____

_____

_____

Money - Assessment

Name_____Date_____

Circle the correct answer for each response.

1. What is the value of 2 five dollar bills, 3 one-dollar bills, and 2 quarters?
   a. $7.00
   b. $6.50
   c. $13.50
   d. $12.10

2. What is the value of 1 twenty-dollar bill, 2 ten-dollar bills, 2 one-dollar bills?
   a. $32.00
   b. $42.00
   c. $57.00
   d. $17.00

3. What is the value of 2 half dollars, 4 quarters, 5 dimes, 2 pennies?
   a. $2.52
   b. $3.52
   c. $2.25
   d. $2.27

4. If you have 5 twenty-dollar bills, is the total…`
   a. Greater than one hundred dollars
   b. Less than one hundred dollars
   c. Equal to one hundred dollars

5. If you have 2 half dollars, 5 quarters, 3 nickels, and 5 pennies, is the total…
   a. Greater than $2.50
   b. Less than $2.50
   c. Equal to $2.50

Write your response the following question using complete sentences.
 Khalil was given a hundred dollar bill for working at his lawn service business. He went to Funcoland to purchase three videos that totaled in cost, $69.95. How much change did Khalil receive from the sales clerk? Explain.

_____
_____
_____
_____
_____
_____
_____